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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/585,870	06/01/2000	Tetsuo Maeda	SONY-T0618	4714

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EXAMINER	
NGUYEN, DZUNG C	

ART UNIT	PAPER NUMBER
2652	12

DATE MAILED: 04/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/585,870	MAEDA, TETSUO	
	Examiner	Art Unit	
	Dzung C Nguyen	2652	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 January 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 7 .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 1/21/03 has been entered.

2. Applicant's amendment filed on, 11/27/02 has been received and entered.

3. Claims 1-26 are presented for examination.

Claim Rejections - 35 U.S.C. § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103© and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1-21 and 25-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Furukawa et al, US patent (6,160,780) in view of Branc et al, US patent (4,831,476) Obata et al, US patent (6,275,459) and further in view of Kurozuka et al, US patent (6,272,093).

Regarding claim 1, Furukawa et al teach a disc drive [fig 1] for driving a disc shaped recording medium [3], comprising: a base [44, fig 4] made of single flat plate that is rectangular in shape and has three receiving portions (see fig 3); disc rotation driving means [45, fig 4] disposed on the base [44] for rotating a disc shaped recording medium [3] loaded in the base [44]; recording and/or reading means [47] disposed on the base [44] for recording data on and/or reading data from the disk shaped recording medium [3]; guide means [485] disposed on the base [44] for movably supporting the recording and/or reading means [47] between inner and outer circumferences of the disc shaped recording medium [3], while the disc shaped recording medium [3] is rotated; a feeding mechanism [480 and 483] disposed on the base [44] for feeding the recording and/or reading means [47] along the guide means [485]; and a plurality of receiving portions [441] for receiving support for the base [44], the receiving portions [441] being disposed symmetrically on the base [44] with respect to a center line [line at the center of 43T] of the base along the direction [up and down] of the movement of the recording and/or reading means [47] (see col. 6 lines 39-68 and figs 3-4).

Regarding claim 8, Furukawa et al teach an optical disc drive [fig 3] for recording data on and/or reproducing data from an optical disc [3], comprising: a base [44] made of single flat plate that is rectangular in shape and has three receiving portions (see fig 3); disc rotation driving means [45] disposed on the base [40] for rotating an optical disc [3, fig 1] loaded in the base [44]; an optical pickup [47] disposed on the base [44] for recording data on and/or reproducing data from the optical disc [3]; guide means [485] disposed on the base [44] for movably supporting the optical pickup [45] between inner and outer circumferences of the optical disc [3], while the optical disc is rotated; a feeding mechanism [480, 483] disposed on the base [44] for feeding the optical pickup [3] along the guide means [485]; a plurality of supporting means [441] each with an associated elastic member [441] for elastically supporting the base [44], the supporting means and the associated elastic members [441a-b, col. 6 lines 59] being disposed symmetrically on the base [44] with respect to a center line [line at the center of 43T] of the base [44] along the direction of the movement of the optical pickup [47]; a plurality of receiving portions [43] disposed on the base for receiving the supporting means [441] (see fig 3 and col. 6 lines 39-68).

Regarding claim 15, Furukawa et al teach an optical disc drive [fig 1] for recording data on and/or reproducing data from an optical disc [3], comprising: a support pedestal [434]; a base [44] made of single flat plate that is rectangular in shape and has three receiving portions supported by the support pedestal [434] (see fig 3); disc rotation

driving means [45, fig 3] disposed on the base [44] for rotating an optical disc [3] loaded in the base [40]; a disc tray [20] movably disposed on the support pedestal [434] between a first position where the optical disc [3] is removable (fig 1) and a second position where the optical disc [3] is at the disc rotation driving means [45] (fig 21); an optical pickup [47] disposed on the base [44] for recording data on and/or reproducing data from the optical disc [3]; guide means [485] disposed on the base [44] for movably supporting the optical pickup [47] between inner and outer circumferences of the optical disc [3], while the optical disc [3] is rotated; a feeding mechanism [480 and 483] disposed on the base [44] for feeding the optical pickup [47] along the guide means [480]; and a base support member [43] for supporting the base with a plurality of supporting means [441] disposed symmetrically with respect to a center line [line at the center of 43T] of the base along the direction of the movement of the optical pickup [47], each of the supporting means including an elastic member (see fig 3 and col. 6 line 39-68).

Regarding claim 25, Furukawa et al teach an optical disc drive [fig 1] for recording data on and/or reproducing data from an optical disc [3], comprising: a base [40, fig 3] made of single flat plate that is rectangular in shape and has three receiving portions (see fig 3); disc rotation driving means [45] disposed on the base [44] for rotating an optical disc [3] loaded in the base [44]; an optical pickup [47] disposed on the base [44] for recording data on and/or reproducing data from the optical disc [3]; guide means [483] disposed on the base [44] for movably supporting the optical pickup [3] between inner

and outer circumferences of the optical disc [3], while the optical disc is rotated; a feeding mechanism [480 and 483] disposed on the base for feeding the optical pickup [47] along the guide means [485]; and supporting means [441] each with an associated elastic member [rubber] for elastically supporting the base [44], the supporting means [441] and the associated elastic members [rubber] being disposed symmetrically on the base with respect to a center line of the base [44] along the direction of the movement of the optical pickup [3] (see, figs 1-4 and 6 and col. 6 lines 39-68) .

Furukawa et al do not teach the follow: a) the disc rotation driving means, the recording and/or reading means, and the feeding mechanism are located on the base such that a center of gravity of the base lies along the center of gravity; b) the base has four receiving portions on four corners; c) the base is made by metal.

Regarding a) Branc et al teach the disk drive including an outer body and an inner body which the disk drive mounted within the inner body. The center of gravity of the disk drive is as close as possible to the center of the inner body (see col. 3 line 64 to col. 4 line 4).

It would have been obvious to one of ordinary skill in the disk drove art at the time the invention was made to locate the disc rotation driving means, the recording and/or reading means, and the feeding mechanism on the base such that a center of gravity of the base lies along the center of gravity as taught by Branc because the

arrangement would reduce disk drive from shock and vibration (see Branc et al col. 1, lines 64-68).

Alternatively, it would have been obvious to one having ordinary skill in the art at the time the invention was made to rearrange the disc rotation driving means, the recording and/or reading means, and the feeding mechanism on the base such that a center of gravity of the base lies along the center of gravity because the arrangement would reduce disk drive from shock and vibration, since it has been held that rearranging parts of an invention involves only routine skill in the art. In re Japikse, 86 USPQ 70.

Regarding b), Obata et al teach that the base [5, fig 20] has four receiving portions [54, fig 5] on four corners (see fig 5).

It would have been obvious to one of ordinary skill in the disk drove art at the time the invention was made to modify the base of Furukawa et al to include four receiving portions on four corners as taught by Obata et al because the modification would improve the balancing of the base as a common knowledge in the art. Obviously, four receiving portions would provide better balancing than three receiving portion.

Regarding c) Fujisawa teaches the base [3, fig 5] is made of metal (see col. 4 lines 65-68).

It would have been obvious to one of ordinary skill in the disk drove art at the time the invention was made to form the base by metal as taught by Fujisawa in order to provide a stronger base for the disk drive, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416 (CCPA 1960).

Regarding claims 2, 9 and 16, Furukawa et al teach that the single plate [43] (see fig 3).

Furukawa et al do not teach that the plate is in range of 1.4 mm to 1.8 mm in thickness.

It would have been obvious to one of ordinary skill in the disk drive art at the time the invention was made to form the thickness of the plate of Furukawa et al in the range of 1.4 mm to 1.8 mm, through routine lab experimentation and optimization to reduce the thickness to the disk drive as a common knowledge in the art.

Regarding claims 3, 10 and 17, Furukawa et al teach wherein the disc rotation driving means [45] and the recording and/or reading means [47] are disposed on one side of the base relative to the center line, while the feeding mechanism [60] is disposed on the other side of the base [44] (see fig 3).

Regarding claims 4, 11 and 18, Furukawa et al teach wherein each of the receiving portions [holes for receiving 441] receives a supporting means [441] with an elastic

member [441a or 441b] for elastically supporting the base [44] (see fig 2-3 and col.6 lines 39-68).

Regarding claims 5, 12 and 19, Furukawa et al teach wherein at least one of the supporting means [441] has a first supporting elasticity [441a] and is disposed near the disc rotation driving means [45], while at least another one of the supporting means [441] has a second supporting elasticity [441b] different from the first supporting elasticity [41a] and is disposed away from the disc rotation driving means [45] (see fig 3 and col. 6 lines 39-68).

Regarding claims 6, 13 and 20, Furukawa et al wherein at least one of the supporting means [441 at the bottom left] is disposed near the disc rotation driving means [45] and supports the base [44] at one height relative to a reference plane [41], while at least another one of the supporting means [441 at the bottom right] is disposed away from the disc rotation driving means [45] and supports the base at a different height relative to the reference plane [41] (see fig 3).

Regarding claims 7, 14 and 21, Furukawa teach wherein at least two of the receiving portions [441 on the bottom left and right] are disposed on each side of the base [44] with respect to the center line (see fig 3).

Regarding claim 26, Furukawa et al teach wherein at least two of the supporting means [441] are disposed on each side of the base [44] with respect to the center line (see fig. 3).

6. Claims 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Furukawa et al, US patent (6,160,780) in view of Obata et al, US patent (6,275,459), Kurozuka et al, US patent (6,272,093) and further in view of Shibata et al, US patent (5,657,172).

Regarding claim 22, Furukawa et al teach an optical disc drive [fig 1] for accurately recording data on and/or reproducing data from an optical disc [3], comprising: a base [44] made of single flat plate that is rectangular in shape and has three receiving portions (see fig 3); disc rotation driving means [45, fig 3] disposed on the base [40] for rotating an optical disc [3] loaded in the base [44]; an optical pickup [47] disposed on the base [40] for recording data on and/or reproducing data from the optical disc [3]; guide means [485] disposed on the base [44] for movably supporting the optical pickup [47] between inner and outer circumferences of the optical disc [3], while the optical disc [3] is rotated; a feeding mechanism [480 and 483] disposed on the base [44] for feeding the optical pickup [47] along the guide means [485]; a plurality of supporting means [441] disposed on the base each with an associated elastic member [43T] for elastically supporting the base [44], the supporting means [rubber] and the associated elastic members [441] being disposed symmetrically on the base [40] with respect to a center line [line at the center of 441] of the base [40] along the direction of the movement of the optical pickup [47] (see col. 6 lines 39-68).

Furukawa et al do not teach a) that the weight shift or imbalances caused by optical pickup movement are eliminated such that the balance of the base is maintained along the direction of movement during operation of the optical disc drive; b) the base has four receiving portions on four corners; c) the base is made by metal.

Regarding a) Shibata et al teach the objective driving device used in the disk drive comprising balances to eliminate weight shifts caused by optical pickup [objective lens, 2a, 1] such that the balance of the base is maintained along the direction of movement during operation (see col. 3 lines 9-24).

It would have been obvious to one of ordinary skill in the disk drive art at the time the invention was made to use the balances to eliminate weight shifts caused by optical pickup such that the balance of the base is maintained along the direction of movement during operation as taught by Shibata et al because it would improve the tracking performance of the disk drive (see Shibata col. 5 lines 4-5).

Regarding b), Obata et al teach that the base [5, fig 20] has four receiving portions [54, fig 5] on four corners of the base (see fig 5).

It would have been obvious to one of ordinary skill in the disk drove art at the time the invention was made to modify the base of Furukawa et al to include four receiving portions on four corners as taught by Obata et al because the modification would improve the balancing of the base as a common knowledge in the art. Obviously,

four receiving portions would provide better balancing than three receiving portion.

Regarding c) Fujisawa teaches the base [3, fig 5] is made of metal (see col. 4 lines 65-68).

It would have been obvious to one of ordinary skill in the disk drove art at the time the invention was made to form the base by metal as taught by Fujisawa in order to provide a stronger base for the disk drive, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416 (CCPA 1960).

Regarding claim 23, Furukawa et al teach wherein the disc rotation driving means [45], the optical pickup [47] and the feeding mechanism [480] are disposed on the base [44] in such a way that their total weight is essentially evenly distributed on the base [44] (see figs 3-4).

Regarding claim 24, Furukawa et al teach wherein at least two of the supporting means [441] are disposed on each side of the base [44] with respect to the center line (see fig 3).

7. Applicant's arguments with respect to claims 1-26 have been considered but are moot in view of the new ground(s) of rejection.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dzung Nguyen whose telephone number is (703) 305-9695. The examiner can normally be reached on Monday-Friday from 8:30 am to 6:00 pm.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-3900 and fax number is (703) 872-9314.

Dzung Nguyen

4/2/03

WILLIAM KLIMOWICZ
PRIMARY EXAMINER